Client

Gurugram

Pathkind Diagnostics Pvt. Ltd.

Plot No. 55-56, Udhyog Vihar Ph-IV, Gurugram - 122015

Processed By

Pathkind Diagnostics Pvt. Ltd.

Plot No. 55-56, Udhyog Vihar Ph-IV, Gurugram - 122015

Name	:	**Mr. PL34**	Billing Date	:	07/07/2023 12:28:07
Age	:	35 Yrs	Sample Collected on	:	10/07/2023 10:01:31
Sex	:	Male	Sample Received on	:	10/07/2023 11:02:13
P. ID No.	:	P1000100012858	Report Released on	:	10/07/2023 15:40:59
Accession No	:	**10002304914**	Barcode No.	:	10002304914, 10002304914-1
Referring Doctor	:	Self			
Referred By	:		Ref no.	:	

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
Heavy and Trace Metals Profile - 2			
# Lead *Sample: Whole Blood EDTA* *Method: ICPMS*	3.50	< 10.0	µg/dL
# Mercury *Sample: Urine (Spot)* *Method: ICPMS*	2.10		µg/L
# Cadmium *Sample: Whole Blood EDTA*	1.80	0.00 - 5.00	µg/L
# Arsenic *Sample: Whole Blood EDTA* *Method: ICPMS*	15.50	< 62.7	µg/L

Lead

Lead is a heavy metal commonly found in environment and can be an acute or chronic toxin. Exposure to lead from any of the environmental sources either by ingestion, inhalation, or dermal contact can cause significant toxicity. 75% to 80% of absorbed lead is typically excreted via urine, 15 to 20% via bile, and the remainder via sweat, hair and nails.

Urinary lead increases in lead poisoning. Measurement of urine excretion rates either before or after chelation therapy has been used as an indicator of lead exposure. However, blood lead analysis has the strongest correlation with toxicity.

Limitations:High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen cannot be collected for 96 hours.

Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, nonessential over-the-counter medications (upon the advice of their physician).

Mercury

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Mercury- Blood Interpretation	Associated conditions
Mercury exposure can occur from-Dental amalgams, Broken thermometers,barometers, contaminated sea food consumption,preservatives (esp. thimerosal),Grain seeds treated with methyl mercury fungicide.	Mercury toxicity is often manifested as Mental symptoms (insomnia, fatigue, poor short- term memory),tremor,stomatitis,gingivitis,GI and Renal disturbances and decreased immunity.

1. Whole Blood / Serum metal testing is used for the detection of recent exposure or poisoning with the toxic element. However, blood metal levels in healthy subjects can vary considerably with exposure to the particular metal present in the diet and in the environment.
2. It should be noted that low or within acceptable levels in blood / Serum do not always exclude that the element is uninvolved in contributing to the patient's symptoms because certain elements may be sequestered in tissues.
3. Lower metal levels in patients on follow-up imply that the toxic element exposure is reduced in the patient's immediate environment or that the body has efficiently eliminated the toxic element.

Reference –

1. Sample collection guidelines for trace elements in blood and urine. International union of pure and applied chemistry clinical chemistry division commission on toxicology working party. Pure & Appl. Chem., Vol. 67, Nos 8/9, pp. 1575-1608, 1995.
2. Nutrient & toxic elements interpretative guide, metamatrix, USA, 2011.

Cadmium

Cadmium - Source of exposure	Associated condition
Cadmium is naturally present in the in air, soils, sediments and even in unpolluted seawater. Occupational cadmium exposure include smelter and refinery workers, alloy and battery makers, pigment and plastic workers, plate workers and welders. Tobacco smoke is one of the largest single sources of cadmium exposure in humans. Tobacco in all of its forms contains appreciable amounts of the metal. For non-smokers, food is the major source of cadmium	Cadmium accumulates in the human body affecting negatively several organs like liver, kidney, lung, bones, placenta, brain and the central nervous system. Associated conditions include hypertension, renal failure, vascular disease, neurological conditions like loss of coordination, numbness of limbs and loss of hearing. Other damages that have been observed include reproductive, and development toxicity, hepatic, haematological and immunological effects. Also, cadmium

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exposure .Certain foods (e.g. organ meats, some shellfish, and oysters) are especially high in cadmium.	compounds are classified as carcinogenic to humans.

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Arsenic

Arsenic Interpretation	Associated Conditions
Arsenic exposure can occur from-through elevated inorganic arsenic in drinking water, this is one of the major causes of arsenic toxicity. Other sources are automobile exhaust, rat poisons, household detergents, wood preservatives, inseticide residues on fruits and vegetables, contaminated wine and seafoof.	* Acute Arsenic exposure often associated with headache, nausea, vomittin, diarrhoea, abdominal pain, hypotension, fever, haemolysis, seizures and mental status changes. * Chronic exposure often associated with darkening and degeneration of skin and can lead to cancer, diabetes and neurological and vascular dysfunction.

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** End of Report**

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